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AN EVALUATION OF THE NEW SPECIES AND SUBSPECIES PROPOSED IN OBERHOLSER'S *BIRD LIFE OF TEXAS*

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Abstract.—Thirty-six newly described and 10 revived names proposed by Oberholser (1974) for North American birds are evaluated. Of these, only three of the new subspecies are, in the author's judgment, taxonomically distinct.

Harry C. Oberholser's *Bird Life of Texas*, published posthumously in 1974, represents the culmination of nearly 75 years of research. The manuscript was edited and updated by Edgar B. Kincaid, but the taxonomy and nomenclature were unaltered from that employed by Oberholser. Although the two-volume set of Oberholser's work available to me was postmarked from Austin, Texas, on 21 August 1974, the book was released from the University of Texas Press, Austin on 23 September 1974 (John W. Aldrich, pers. comm.), which should stand as the publication date for purposes of priority.

A genus and species of hummingbird and 36 subspecies were described as new in the book. Ten additional subspecies were also proposed for the first time, but for these Oberholser revived names already in the literature.

During his career, Oberholser contributed a wealth of information on the taxonomy and nomenclature of North American birds and many of the taxa he described are recognized today. The purpose of this paper is to review the various new or revived taxa appearing in his 1974 book. Browning (1974) has previously reviewed the western races treated in that work. Oberholser's use of generic names is not discussed.

Except for the hummingbird, *Phasmornis mystica*, all of the holotypes are in the collections of the National Museum of Natural History and the Cleveland Museum of Natural History. Type series were reassembled as closely as possible following Oberholser's original data sheets preserved in the files of the Bird Section of the National Fish and Wildlife Laboratory, U.S. Fish and Wildlife Service. These sheets were also used to reassemble series of other races used by Oberholser in his comparisons. Most specimens in these series were collected before 1940. Additional specimens, including some collected more recently, were also examined.

At the beginning of each of the following accounts the scientific name and page number on which it was first proposed by Oberholser (1974) is cited. This is usually followed by the name that I regard as having priority and the reasons for my conclusions. Standard measurements of specimens are in millimeters (mm). Bill measurements are from the anterior edge of the nostril to the tip, except where otherwise specified. Student's *t*-test was applied for determining the statistical significance of differences between means.

Many of the new forms described by Oberholser were from populations intermediate between currently recognized races. I consider only three of the 36 new subspecies as valid. These are *Lampornis clemenciae phasmorus, Agelaius phoeniceus stereus,* and *Agelaius phoeniceus zastereus.* The latter two races are recognized pending a comprehensive review of the species.

Species Accounts

Leucophoyx thula arileuca, p. 106 = *Egretta thula brewsteri* Thayer and Bangs, 1909

Oberholser applied the name *arileuca* to birds breeding in the Great Basin and central California, which he described as intermediate in size between the western race *brewsteri* and nominate *thula* of eastern North America. Specimens from the ascribed range of *arileuca* are within the range of individual variation in size of *brewsteri* (see Browning, 1974; Bailey, 1928).

Anas platyrhyncha neoboria, p. 154 = *A. platyrhynchos platyrhynchos* Linnaeus, 1758

Oberholser named the New World populations *neoboria,* which he described as larger than nominate *platyrhynchos* of the Old World. The New World birds represent the upper end of a cline, being slightly larger than those of the Old World (Browning, 1974).

Planofalco mexicanus polyagrus (Cassin, 1854), p. 977 = *Falco mexicanus* Schlegel, 1851

Cassin (1854) named the birds of the western United States *Falco polyagrus*, but admitted (*in* Baird et al., 1858) that *mexicanus* Schlegel, 1851 (type-locality = Mexico) might apply to the same species. Coues (1866), noting Cassin's reservations, stated that although *polyagrus* and *mexicanus* are similar, *polyagrus* has pale, dull blue legs whereas *mexicanus* has yellow legs. Ridgway (*in* Baird et al., 1874) and other authorities did not mention this difference, but Ridgway considered *polyagrus* to be paler in plumage than *mexicanus.* Nevertheless, *polyagrus* was not recognized as a race of *F. mexicanus* in the A.O.U. Check-list (1886).

Although *polyagrus* had originally been applied to all birds north of Mexico, Oberholser used the name for the populations of southwestern British Columbia and the northwestern United States, and *mexicanus* for the remainder of the species' range. Despite Stone's (1899) statement that the type of *polyagrus* came from the source of the Platte, Oberholser stated without explanation that the name was "based evidently on a specimen from California belonging to this form." Oberholser's subdivision and concurrent new concept of the races of *F. mexicanus* are qualified only by his remark that he examined the plumage of specimens; however, no characterizations are given. I can find no geographic variation in the species.

Coprotheres pomarinus camtschatica (Salvin, 1896), p. 374 = *Stercorarius pomarinus* (Temminck, 1815)

Oberholser applied the name *camtschatica*, based on *avis camtschatica major* of Pallas, 1811, to the populations of *S. pomarinus* breeding from eastern Siberia to western North America, and characterized the race as darker and slightly larger than *pomarinus* of eastern North America, Europe, and western Asia. As Oberholser correctly stated, in using the word *camtschatica*, Pallas was not proposing a name for a race of *S. pomarinus*. Oberholser credited Salvin (1896) as author of the name *camtschatica* but actually Salvin listed the name as a synonym of *S. pomarinus*. Oberholser's claim that Salvin's listing of *camtschatica* in the synonymy of *pomarinus* thereby made this name available, with Salvin as author, does not satisfy Article 11(d) of the International Code of Zoological Nomenclature. Therefore, the name *camtschatica* had no status in nomenclature until it was used by Oberholser.

As pointed out by Oberholser, the differences in size between the two alleged races are minor. I do not believe that they justify the recognition of races of *S. pomarinus*.

Geococcyx californianus dromicus, p. 439 = *G. californianus* (Lesson, 1829)

G. californianus ranges from northern California south to Baja California, east through Nevada, southern Utah, parts of Kansas, Oklahoma, Arkansas, and Louisiana, south to Arizona, New Mexico, and central Mexico. No races have previously been recognized. Oberholser named the roadrunners from central Texas and western Arkansas south to central Nuevo Leon and central Veracruz as *G. c. dromicus*, which he described as smaller than *californianus*, but with larger white spots on the outermost rectrices.

The means of measurements of adult males collected near the type locality of *G. californianus* are not significantly greater ($P < 0.05$) than those of the type series of *dromicus*. Specimens from Arizona also are similar in size both to the California sample and to the type series of *dromicus* (Table 1). The mean of the wing chord of the type series (173.5 mm) actually is larger

Table 1. Measurements (mm) of male *Geococcyx californianus* from three geographic samples.

		Wing chord		Tail		Culmen from nostril	
Sample	*n*	range	mean ± SD	range	mean ± SD	range	mean ± SD
californianus[1]		163.6–189.0	174.5	260.1–300.0	278.4		
dromicus[1]		154.9–168.9	163.3	243.1–277.1	254.3		
Texas	8	163–191	173.5 ± 11.597	259–314	273.5 ± 16.918	31.1–37.7	35.1 ± 2.214
Arizona	12	165–181	172.5 ± 5.377	269–298	284.5 ± 7.399	29.6–39.1	36.1 ± 2.544
California	4	167–179	173.5 ± 5.545	269–316	288.5 ± 18.117	35.6–41.4	37.6 ± 2.380

[1] From Oberholser (1974).

than that reported by Oberholser (163.3 mm). The size of the tail spots is subject to great individual variation and is not a useful character in separating the alleged forms.

At best, the geographic variation in length of tail and culmen appears to be clinal (Table 1), with the extremes at either end poorly differentiated and not warranting nomenclatural recognition.

Chordeiles minor divisus, p. 472 = *C. m. hesperis* (Grinnell, 1905)

Four races of *C. minor* occur in southeastern Montana, Wyoming, and eastern Utah and western Colorado: a dark race, *C. m. hesperis*, breeds from eastern Oregon and California, Nevada, Idaho, and western Montana south to Utah; a paler race, *sennetti*, breeds from southern Saskatchewan south to eastern Montana, Wyoming, and north-central Colorado and northeastward to southwestern Minnesota; a buffy race, *howelli*, breeds in central and eastern Colorado, northeastern Utah, and north-central Texas; and a fourth race, *henryi*, similar to *hesperis* but browner and less intensely black, breeds from southwestern Utah south through Arizona and New Mexico to extreme western Texas and to southern Durango, Mexico (A.O.U., 1957). Intergradation occurs between *hesperis* and *sennetti* in southern Saskatchewan and central Montana; between *hesperis* and *howelli* in south-central Wyoming and northwestern Colorado; between *henryi* and *howelli* in northeastern Utah and western Colorado; between *henryi* and *hesperis* in southeastern Utah; and between *sennetti* and *howelli* in northeastern Colorado (see Selander, 1954).

Oberholser delimited the range of his new race, *divisus* (type-locality = Loveland, Larimer Co., Colorado) as including parts of the zones of intergradation between the four races listed above except that between *henryi* and *hesperis*. He described *divisus* as paler buff than *howelli* but did not differentiate the new form from any other races of *C. minor*.

The type-series of *divisus* is highly variable and includes examples of intergrades between several of the western races. Selander (1954:76) reported that specimens from Larimer County, Colorado, resemble those from Chaffee and Gunnison counties, of which some are closer to *hesperis* than to *howelli*. The fate of the name *divisus* thus rests on the identiifcation of the holotype. I find that the holotype of *divisus* is darker and less buffy than the holotype of *howelli*. However, the holotype of *divisus* cannot be separated from most specimens of *hesperis* from eastern Oregon, Idaho, and elsewhere in the Great Basin.

Phasmornis mystica, p. 485 = ?

Phasmornis mystica was described by Oberholser (1974) as a new genus and species of hummingbird. The name is based on the unique holotype, for which Oberholser, unfortunately, gave no museum number or collector's number, and to date the whereabouts of the type-specimen remains unknown.

Cornelius Muller (surname changed from Mueller in 1937), who reportedly collected the holotype, collected eight specimens of hummingbirds at Boot Springs, Texas, in the 1930's (*in litt.*, 22 January 1975). These are housed at the University of Texas, Austin. Hoping that one of these might be the missing holotype of *P. mystica*, I examined the entire series. Three of the eight (two *Selasphorus platycercus* and one *Lampornis clemenciae*) have collection data identical to that given by Oberholster for the holotype of *P. mystica*. None of the eight specimens, four of which bear the initials "HCO," however, conforms in the mensural or color characters given by Oberholser in the original description of *P. mystica*.

Phasmornis mystica was described as similar to the female plumage of *Archilochus alexandri*, but smaller and more metallic green on the pileum. The detailed description and measurements given by Oberholser provide no clues to the identity or sex of the type. Although regarded as probably being a male by Oberholser, it was considered by Kincaid (*in* Oberholser, 1974) to be perhaps a mutant or hybrid. Kincaid was unsuccessful in locating the holotype. The holotype of *P. mystica* may represent a hybrid, an immature of some known species, a mutant, or a mislabeled skin from some locality other than the Chisos Mountains.

Lampornis clemenciae phasmorus, p. 493 = *L. c. phasmorus* Oberholser, 1974

Lampornis clemenciae was first subdivided by Oberholser (1918), who gave the name *bessophilus* to the form breeding from Arizona east to the Chisos Mountains in Texas, and south to Durango and Sinaloa, Mexico. Birds breeding from the Central Plateau and the Sierra Madre Oriental of Mexico south to Oaxaca were assigned to the nominate race, *clemenciae* Lesson, 1829 (type-locality = "Mexico"). *Lampornis c. bessophilus* was described as having a shorter bill and being duller above and grayer below than the nominate race.

The racial identity of the birds breeding in the Chisos Mountains has been subject to much controversy, some authors (Oberholser, 1918; Todd, 1942) referring this population to *bessophilus* and others (e.g., Van Tyne, 1929) to *clemenciae*. Oberholser has named the birds of the Chisos Mountains as a new race, *phasmorus*. This race is said to differ from the nominate race by its shorter bill and tail, with the rectrices having narrower white tips, and from *bessophilus* in being more green (less bronze) above and more gray (less brown) below.

I find that the coloration of *bessophilus* is similar to that of *clemenciae*, although slightly duller (less bronze), especially on the rump. The ventral

Table 2. Bill measurements (mm) of adult male specimens of *Lampornis clemenciae.*

	exposed culmen			bill width		
	n	range	mean, SD	*n*	range	mean, SD
phasmorus	12	20.2–22.2	21.55 ± 0.48	9	2.4–3.1	2.78 ± 0.22
bessophilus	13	21.8–23.2	22.45 ± 0.48	8	2.0–3.0	2.70 ± 0.33
clemenciae	15	22.1–24.3	23.19 ± 0.66	9	2.8–3.1	2.97 ± 0.17

color of *bessophilus* is very slightly paler than in the nominate race. The type series of *phasmorus* is noticeably more green above than either *bessophilus* or *clemenciae.* The breast and abdomen of *phasmorus* are decidedly gray, whereas in *bessophilus* and *clemenciae* they are grayish-brown. Iridescent feathers on the sides of the upper breast are green in specimens of *phasmorus,* and greenish-bronze in the other two races. The amount of white on the outer rectrices of *phasmorus* appears to be similar to that of nominate *clemenciae,* both races having more white than *bessophilus.*

Nominate *clemenciae* is slightly larger than *bessophilus* (Oberholser, 1918). The length of the exposed culmen of *phasmorus* is significantly smaller than that of *bessophilus* ($t = 4.60$, $P < 0.0001$; see Table 2). Although *bessophilus* is intermediate between the two other races in length of bill, the difference between *bessophilus* and nominate *clemenciae* is also highly significant ($t = 3.40$, $P < 0.001$). Nominate *clemenciae* is larger than *phasmorus* in width of bill ($t = 2.531$, $P < 0.02$). *Lampornis c. bessophilus* is intermediate between the other two races in width of bill (Table 2), but is significantly smaller than nominate *clemenciae* ($t = 3.132$, $P < 0.001$). Specimens of *clemenciae* and *bessophilus* were collected from the southern and northern portions of their respective ranges and may possibly represent extremes. *Lampornis c. phasmorus* is intermediate between the two other races in wing chord and tail length, but the differences between the three races in this case are not significant.

The breeding range of *phasmorus* is imperfectly known. Based on two specimens from Santa Catarina in central-western Nuevo Leon, Oberholser stated that the southern part of the range of the race is on the northeastern edge of the Mexican Plateau. These two specimens are similar to nominate *clemenciae* in ventral coloration, but one (USNM 183701) has iridescent green feathers on the upper breast and neck and, therefore, closer to typical *phasmorus.* This specimen is also decidedly green dorsally, but its exposed culmen is 23.4 mm, or closer to that of *clemenciae* (Table 2). The second specimen (USNM 183702) is identical to *clemenciae* in dorsal color, but its exposed culmen is 21.1 mm, or closer to that of *phasmorus* (Table 2). The two specimens thus appear to be examples of intergrades between *clemenciae* and *phasmorus.*

I conclude that there are three distinct races of *L. clemenciae*: a slightly dull greenish-bronze race, *bessophilus*, breeding from Arizona and New Mexico south to Durango and Sinaloa; a slightly brighter greenish-bronze race, *clemenciae*, with a longer and heavier bill, which breeds from the Central Plateau and the Sierra Madre Oriental of northern Mexico south to Oaxaca; and a bright green, short-billed race, *phasmorus*, breeding in the Chisos Mountains of Texas, southeast probably to central-western Nuevo Leon.

Balanosphyra formicivora phasma, p. 516 = *Melanerpes f. formicivorus* (Swainson, 1827)

Previous to Oberholser (1974), *M. formicivorus* in the United States had been divided into three races: *bairdi* Ridgway, 1881, breeding from Oregon to southern California; *aculeatus* Mearns, 1890 (type-locality = Squaw Peak, central Arizona) breeding in the southwestern United States south to northern Mexico; and *formicivorus* Swainson, 1827 (type-locality = Temascaltpec, Mexico) breeding in southcentral Texas south to Oaxaca. Oberholser subdivided *formicivorus*, naming a new race, *phasma*, said to range from the southern part of the Trans-Pecos in Texas, south to Coahuila and southern Tamaulipas.

Ridgway (1914) considered *bairdi* to be larger than *aculeatus* and to have a more uniform and extended black upper breast band and more yellow lower throat. He did not state how *bairdi* differs from nominate *formicivorus*, but his measurements reveal that females of *bairdi* average larger than females of *formicivorus*. Mearns (1890) described *aculeatus* as smaller than *formicivorus* and *bairdi*, and as having a more slender bill than the other two races. *Melanerpes f. aculeatus* was recognized by van Rossem (1934a, 1945) but the name was placed in the synonymy of *formicivorus* by Peters (1948). Phillips (*in* Phillips et al., 1964) recognized *aculeatus* as a distinct race based on its slender bill. Oberholser (1974) recognized *aculeatus* and considered it to be smaller than nominate *formicivorus* in wing, tail, bill, and middle toe. Oberholser distinguished a new race, *phasmus*, from *aculeatus* and nominate *formicivorus* by its shorter wing and tail and longer bill and middle toe. Oberholser found no appreciable difference in the black breast band between *phasmus* and *formicivorus* and found only a slight difference in this character between *formicivorus* and *aculeatus*.

I measured 55 adult males and 48 females (Tables 3 and 4) in order to assess the status of *aculeatus* and *phasmus*. There were too few specimens available from north-central Mexico (north of 24° latitude) for statistical treatment. Specimens of *bairdi* from California are included for comparison.

Specimens from the range of *aculeatus* from New Mexico and western Texas (mostly from the Davis Mountains) are larger than those from Arizona

Table 3. Measurements (mm) of adult male *Melanerpes formicivorus.*

	Wing chord	Tail	Bill length	Bill width	Middle toe
bairdi (Calif.)	136.9–147.2	76.4–84.5	21.2–24.8	7.3–8.9	16.7–18.9
	142.2 ± 4.1	80.3 ± 2.6	22.7 ± 1.1	8.1 ± 0.4	17.7 ± 0.7
	10	10	10	15	10
aculeatus (Arizona)	129.1–142.5	65.0–80.5	18.3–21.8	6.3–7.5	15.3–17.3
	136.0 ± 3.9	74.2 ± 4.8	19.5 ± 1.3	7.0 ± 0.3	16.7 ± 0.7
	12	12	10	14	6
aculeatus (New Mex., W. Tex.)	135.0–144.3	69.6–83.2	19.5–24.7	7.0–7.5	15.7–18.5
	138.6 ± 3.6	78.3 ± 5.3	21.4 ± 2.0	7.2 ± 0.2	17.1 ± 1.3
	5	5	5	5	5
phasmus (Chisos Mtns.)	127.0–137.0	63.0–82.3	20.6–23.9	6.3–7.6	16.2–18.2
	133.2 ± 3.8	73.5 ± 6.4	21.7 ± 0.9	6.9 ± 0.5	17.2 ± 0.7
	9	9	9	9	9
phasmus (Nuevo Leon)	135.2–135.3	74.3–77.9	22.4–24.0	—	16.9–17.7
	135.3	75.7	23.0		17.4
	3	3	3		3
formicivorus (Vera Cruz-Hidalgo)	136.3–139.9	72.5–83.0	18.6–21.6	—	16.7–19.7
	138.2	76.9	20.4		17.9
	4	4	4		4
formicivorus (Guerrero, Michoacan)	135.6–148.1	71.0–79.7	19.3–20.9	—	16.4–17.5
	139.0 ± 4.6	75.5 ± 3.2	19.9 ± 0.7		16.9
	6	6	6		3
formicivorus (Jalisco)	134.2–147.0	71.2–77.7	19.1–21.7	—	16.5–17.8
	139.7 ± 4.6	74.1 ± 3.1	20.3 ± 0.9		17.2 ± 0.5
	6	6	6		6
formicivorus (S. cent. Mex.)	—	—	—	7.1–8.1	—
				7.6 ± 0.3	
				9	

in all the characters examined except in width of bill in males (Table 3) and length of bill in females (Table 4). I do not agree with Oberholser that *aculeatus* may be separated from *formicivorus* by mensural differences of wing, tail, bill and middle toe. Differences between the means for width of bill in males, however, is highly significant ($t = 4.65$, $P < 0.001$) between *aculeatus* from Arizona and nominate *formicivorus* from south-central Mexico. Nevertheless, it seems inadvisable to recognize *aculeatus* on the basis of differences in bill width alone, at least until a series from north-central Mexico is examined.

The mensural differences between *phasmus* and the nominate race do not conform to those stated by Oberholser except in wing chord (Tables 3 and 4). The mean of wing chord of males and females of *phasmus* from the Chisos Mountains was found to be statistically significant ($P < .05$) from that of both "*aculeatus*" and nominate *formicivorus.* Males of *phasmus*

Table 4. Measurements (mm) of adult female *Melanerpes formicivorus.*

	Wing chord	Tail	Bill length	Bill width	Middle toe
bairdi (Calif.)	136.9–147.2 140.9 ± 3.9 10	76.4–84.5 83.6 ± 4.4 10	21.2–24.8 21.5 ± 1.1 10	7.3–8.3 7.7 ± 0.4 13	16.7–18.9 17.6 ± 0.8 10
aculeatus (Arizona)	132.5–142.0 138.5 ± 3.2 8	74.0–82.6 79.9 ± 2.9 8	17.4–20.9 19.9 ± 1.3 6	6.2–7.5 6.9 ± 0.4 14	14.4–16.5 15.9 ± 0.8 6
aculeatus (New Mex., W. Tex.)	135.0–142.2 139.1 ± 2.4 10	75.8–84.9 79.9 ± 2.6 9	18.3–21.6 19.9 ± 1.0 9	6.8–7.5 7.2 ± 0.4 8	15.6–20.9 16.7 ± 0.7 9
phasmus (Chisos Mtns.)	131.3–138.5 134.9 ± 2.8 7	71.4–84.6 77.3 ± 4.8 7	19.2–22.6 20.6 ± 1.4 5	6.7–8.0 7.2 ± 0.4 7	15.9–17.1 16.6 ± 0.4 5
phasmus (Nuevo Leon)	128.7–131.0 130.8 ± 1.0 6	65.5–74.4 70.8 ± 3.4 6	17.0–21.5 19.7 ± 1.6 6	—	15.7–18.3 16.9 ± 0.9 6
formicivorus (Jalisco)	128.2–144.4 139.1 ± 5.1 8	64.6–77.0 72.2 ± 4.5 8	17.7–19.8 18.9 ± 1.1 8	—	13.4–17.1 15.9 ± 1.3 7
formicivorus (S. cent. Mex.)	—	—	—	6.8–7.9 7.3 4	—

have significantly smaller means for width of bill ($t = 3.38$, $P < 0.001$) than *formicivorus* and are statistically larger in length of culmen than "*aculeatus*" and nominate *formicivorus.* Width of bill is greater in female specimens of *phasmus* than in those from samples of "*aculeatus*" ($t = 2.24$, $P < 0.02$). The coloration of the specimens from different samples listed in Tables 3 and 4 does not reveal consistent geographical variation.

The differences between specimens from the Chisos Mountains and Nuevo Leon and specimens of nominate *formicivorus,* although statistically significant for certain characters, are small and it seems best to consider the name *phasmus* as a synonym of nominate *formicivorus.*

Empidonax oberholseri spodius, p. 558 = *E. oberholseri* Phillips, 1939

Oberholser divided *E. oberholseri* into two races on the basis of differences in size and coloration. *E. o. spodius,* considered to be the race breeding from northwestern British Columbia to southwestern Saskatchewan south to southern Oregon does not warrant recognition since geographic variation in the species is virtually negligible (Browning, 1974). Oberholser restricted the range of the nominate race to southeastern Idaho, east to northwestern South Dakota and south to northwestern California and central New Mexico. Curiously, the type-locality of *spodius*, Gray, Bonneville Co., Idaho, is in the breeding range of nominate *oberholseri*, further negating the validity of this supposed race.

Iridoprocne bicolor vespertina (Cooper, 1876), p. 989 = *I. bicolor* (Vieillot, 1807)

The name *vespertina* was proposed for the western populations of *Iridoprocne bicolor* by Cooper, who considered these birds to be larger and bluer than the eastern populations. Ridgway (1904) did not recognize *vespertina* and his measurements reveal that western birds are actually slightly smaller than those of eastern samples.

Oberholser revived the name *vespertina* for birds from California, which he considered to be "decidedly" smaller than other populations of the species. Birds from Oregon and Washington, according to Oberholser, are slightly larger than *vespertina*, but are referable to the nominate race.

I measured a series of adult *I. bicolor* taken during the breeding months and find little geographic variation. Measurements of wing chord are given in Table 5. Few specimens from California were available but both males and females have smaller means than those of all other samples. Nonetheless, the differences between the samples are minor in *I. bicolor*; the measurements of the California birds are entirely within the extremes of samples from elsewhere in the species' range (Table 5). The putative difference in size between specimens from California and other specimens compared by Oberholser may have been caused by his sampling technique. The measurements given by Oberholser (1974) are strongly biased by his failure to confine himself to include only breeding specimens. Oberholser measured six males and five females from California. Only one male and one female were taken during the breeding season; all other specimens were collected in the late fall, winter, or early spring. The two probable breeding specimens both have wing chords that exceed the means of the respective sexes of *vespertina*. Oberholser is also incorrect in considering specimens from Washington and Oregon to be intermediate in size between birds from California and the remaining portion of the range of the species. There is no statistically significant difference between the means of any of the geographic samples.

Petrochelidon pyrrhonota albifrons (Rafinesque, 1822), p. 579 = *P. p. pyrrhonota* (Vieillot, 1817)

Petrochelidon pyrrhonota lunifrons (Say, 1823), p. 579 = *P. p. pyrrhonota*

Oberholser considered the populations of *P. p. pyrrhonota* (*sensu* A.O.U. Check-list 1957) from east of the Rocky Mountains to consist of three races.

Table 5. Variation (mm) in wing chord of adult *Iridoprocne bicolor.*

	Males				Females			
	n	range	mean	SD	*n*	range	mean	SD
Alaska	15	113.0–123.6	118.21	3.08	4	114.8–122.1	118.88	3.04
British Columbia	18	110.5–121.3	115.53	2.95	9	106.6–117.9	112.64	3.95
Washington–Oregon	8	116.3–120.9	119.21	1.55	6	112.8–120.7	118.43	2.91
California	4	114.2–119.7	116.73	2.31	3	108.6–114.9	111.37	3.17
Alberta	6	117.1–121.5	119.13	1.95	8	110.3–118.8	115.33	3.03
Ontario–Quebec	8	114.0–123.5	118.30	3.46	11	111.2–117.5	115.14	1.93
Newfoundland	10	113.9–125.9	118.78	3.67	7	111.9–120.3	115.94	2.79
New Jersey	11	111.1–124.1	117.54	4.84	4	112.7–122.9	117.48	4.63

According to Oberholser, the name *albifrons* applies to the populations breeding from northwestern Manitoba and central Ontario south to Missouri and Tennessee, and the name *lunifrons* to the populations from North Dakota south to central New Mexico and northern Texas. He restricted the range of nominate *pyrrhonota* to the northeastern United States. *Petrochelidon p. lunifrons* was said to be paler on the rump, nape, forehead, and underparts, and to have a shorter middle toe than *albifrons.* Nominate *pyrrhonota* was said to have a darker forehead than *albifrons*, the only distinction between the two races given by Oberholser.

The names *lunifrons* (based on specimens from the Rocky Mountains) and *albifrons* (based on specimens from Kentucky and Indiana) have been considered synonyms of nominate *pyrrhonota* for many years. Oberholser's recognition of *albifrons* and *lunifrons* as distinct races was supported by very weak characters and was based upon very small series. According to Oberholser's measurement sheets, only two males of *albifrons* were examined, and his largest sample was a group of only 11 specimens, which he has assigned to *lunifrons.* I examined larger series from several areas east of the Rocky Mountains and found that there is a great amount of individual variation in these birds. The degree of variation and the lack of consistent geographic variation in these populations certainly does not permit the recognition of additional races.

Aphelocoma coerulescens mesolega, p. 589 = *A. c. suttoni* (Phillips, 1964)

The Rocky Mountain populations of *A. coerulescens* are subdivided into a dark northern form, *woodhouseii* Baird, 1858 (type-locality = San Francisco Mountains, Coconino County, Arizona), and a paler southern race, *texana* Ridgway, 1902 (type-locality = near the head of the Nueces River, Edwards County, Texas). Phillips (1964) examined the type specimen of *woodhouseii*, which Pitelka (1951) did not see, and referred the specimen to the pale populations of the Great Basin. According to the A.O.U. Check-list (1957), birds from the Great Basin are the race *nevadae* Pitelka, 1945. Phillips placed the name *nevadae* in the synonymy of *woodhouseii* and named a dark eastern population *suttoni* (type-locality = Scroogs' Arroyo, 35 km S Pueblo, Colorado).

The racial identity of the birds from the Trans-Pecos of Texas has been a subject of much controversy. Some authors considered this population to consist of intergrades between *suttoni* (*woodhouseii* of Pitelka, 1951) and *texana* (Oberholser, 1917), but closer to the former (Oberholser *in* Van Tyne and Sutton, 1937; Pitelka, 1951). Smith (1917) referred specimens to "*woodhouseii*" but Oberholser (1920) and Hellmayr (1934) referred specimens to *texana.*

Oberholser named the birds of southeastern New Mexico and the Trans-Pecos of Texas as a new race, *mesolega* (type-locality = Ft. Davis, Jeff Davis Co., Texas), said to be paler above and darker below than *texana*, and "less bluish" above and paler below than *suttoni*. The type series of *mesolega* represents a population somewhat intermediate between *suttoni* and *texana*, but more similar to *suttoni*. I agree with Pitelka (1951) and others that specimens from the Davis Mountains are referable to the dark northern race now know as *suttoni*. The name *mesolega* is here considered to be a synonym of *suttoni*.

Baeolophus bicolor floridanus (Bangs, 1898), p. 609 = *Parus bicolor* Linnaeus, 1766

In the original description of *floridanus*, Bangs (1898) limited the range of this race to Florida. He described *floridanus* as smaller and paler and gave measurements of only two males of *floridanus* and two males and one female of *bicolor*. Oberholser revived the name *floridanus* for a race that he considered to breed from northern Texas and Georgia and south to central Texas and central Florida. He characterized the race as smaller, paler, and grayer than the nominate race found in the remainder of the species' range. Oberholser does not give comparative measurements.

Upon comparing size and coloration between specimens from the extreme northern part of the range of *P. bicolor* and birds from Florida and southern Texas, I find little difference between the alleged races. This is also borne out by Oberholser's own measurement sheets of the two forms; the means of the different measurements of his samples are virtually identical. Dixon (1955) examined portions of the western populations and found that there is minor clinal variation from large in the north to smaller in the south.

Certhia familiaris iletica, p. 627 = *C. f. montana* Ridgway, 1882

The populations of *Certhia familiaris* breeding from southern Alaska south through the Rocky Mountains to western Texas are generally recognized under the name *montana* (see Burleigh and Lowery, 1940; A.O.U. 1957). Oberholser considered the birds breeding in the northern part of the Trans-Pecos of Texas to be distinct from *montana* and named his new form *iletica*. He defined the range of *montana* as including southern Alaska south through the Rocky Mountains to central Arizona and southern New Mexico, essentially the range given by Ridgway (1882). *Certhia f. iletica* was said to be smaller than *montana*, with shorter tail, culmen, and middle toe. According to Oberholser the two races show very little overlap in these measurements, the greatest difference being in length of tail.

Only 6 of the 13 specimens in the type series of *iletica* were available for comparison. All but two specimens in the total series were collected during the breeding months. One of these two non-breeding birds has the buffy superciliary stripe characteristic of the eastern race, *americana* and was collected in December at Del Rio, Texas, where *americana* is known to winter (cf. A.O.U. Check-list, 1957). The remaining specimens that I examined are adult males and all have the white superciliary line characteristic of the race *montana.* The range of variation in length of tail in these specimens falls within that of adult males of *montana* collected in the Rocky Mountains. The length of tail of the holotype of *iletica,* a female, is 59.8 mm and is also within the range of nine female specimens from the Rocky Mountains (59.0–69.3 mm). Likewise, the measurements of type-series of *iletica* do not differ from those of birds collected within the range ascribed to *montana.* The name *iletica* is here considered a synonym of *montana.*

Telmatodytes palustris canniphonus, p. 640 = *T. p. dissaeptus* (Bangs, 1902)

Telmatodytes palustris cryphius, p. 641 = *T. p. iliacus* Ridgway, 1903

Here, I follow the treatment of *T. palustris* advocated by Parkes (1959), who recognized four races of Long-billed Marsh Wrens breeding east of the Rocky Mountains and north of the Carolinas. These are *T. p. palustris* (Wilson), 1807, a brownish race that is less reddish than the other three forms and that breeds in the coastal regions from Rhode Island south to Virginia; *dissaeptus* Bangs, 1902, a reddish brown race that breeds from New Brunswick, southern Maine and southern Ontario south in inland regions to western Virginia, south-central Pennsylvania, and Ohio; *iliacus* Ridgway, 1903 (type-locality = Wheatland, Knox County, Indiana), paler brown and more reddish than *dissaeptus*, breeding from southwestern Michigan, western Indiana and western Ontario south to southern Missouri and eastern Kansas, and west through the Dakotas and Manitoba; and *laingi* Harper, 1926 (type-locality = Athabaska Delta, 9 miles above mouth of Main Branch, Alberta), a pale brown race that breeds east of the Rocky Mountains in Alberta and most of Saskatchewan. Discussion of areas of intergradation and more detailed breeding ranges may be found in Parkes (1959).

Parkes examined approximately 670 skins of *T. palustris*, a much larger sample than that seen by Oberholser, according to his sheets of measurements. Parkes did not find the recognition of more than four subspecies to be warranted within the northeastern portion of the species' range.

Birds from the range of *dissaeptus* (*sensu* Parkes) were considered by Oberholser to be referable to two races, a dark, less rufescent (more sooty) form, *canniphonus*, breeding from southeastern Ontario and southeastern Michigan south to Pennsylvania and Ohio, and *dissaeptus*, a more rufescent form breeding in southwestern Quebec, southern Maine, and south to Connecticut and Rhode Island. The wing chord of *canniphonus* was said to be greater than in examples of his *dissaeptus.*

I compared the type series of *canniphonus* with specimens taken from several localities within the range of *dissaeptus*, and find that both series are identical in color, and that there is no difference in wing chord between the two series. Parkes (1959) listed measurements revealing a greater difference in the mean of wing chords between two series of geographically separate representatives of *laingi* than is evident between Oberholser's *dissaeptus* and *canniphonus.* The name *canniphonus* is here considered a synonym of *dissaeptus.*

Briefly, the taxonomic history concerning the birds described as *cryphius* (type-locality = Blackmer, Richland County, North Dakota) by Oberholser (1974) is as follows. Todd (1937) noted differences between the holotype of *iliacus* and other specimens collected nearby in southwestern Indiana, and attributed the differences to post-mortem changes in color. Aldrich (1946) suggested that the holotype of *iliacus* was a migrant from the range of the race known by the more recent name *laingi.* The holotype of *iliacus* (USNM 90199), was not listed by Deignan (1961).

Oberholser, following Aldrich's suggestion, held that the holotype of *iliacus* was a migrant representative of *laingi*, thereby leaving the prairie population nameless. The name *cryphius* was proposed by Oberholser for this population and the name *iliacus* was applied to the form in Alberta and Manitoba (= *laingi*, *sensu* Parkes). If this treatment of the type of *iliacus* were correct, Oberholser's action would have been justified. However, Parkes (1959) concluded that the holotype of *iliacus* is indeed representative of the prairie population. This being the case, the name *cryphius* becomes a synonym of *iliacus.* It may be noted that in color, the type of *cryphius* is well within the range of individual variation of *iliacus*, and is noticeably darker than *laingi* and paler than *dissaeptus.*

Turdus migratorius aleucus, p. 662 = *T. m. propinquus* Ridgway, 1877

Oberholser subdivided *propinquus* Ridgway, 1877, into two races, naming the race from Oregon, California, and western Nevada as a new form, *aleucus*, said to be similar in color to *propinquus* but smaller. Variation in length of wing in *propinquus* (*sensu* A.O.U. Check-list, 1957) is clinal with birds having shorter wings in the west (see Browning, 1974).

Hylocichla mustelina densa (Bonaparte, 1854) = *H. mustelina* (Gmelin, 1789)

Oberholser applied the name *densa* to the Wood Thrushes that breed from central Oklahoma, southern Indiana, and South Carolina south to southeastern Texas and northern Florida. He considered the birds breeding to the north of this region to be nominate *mustelina.* According to Oberholser, *densa* differs from *mustelina* in its shorter wing and tail, and duller, more olivaceous (less rufescent) upperparts.

Specimens of *H. mustelina* from New Jersey are slightly more rufescent above than birds from Georgia and Alabama but the variation in this character is clinal. Geographic variation in size is also slight and clinal with larger birds breeding in the north. Means from measurements of wing chord of males are as follows: New Jersey ($n = 10$) 108.15, Maryland–Virginia ($n = 10$) 107.64, North Carolina ($n = 6$) 106.13, South Carolina ($n = 2$) 104.15, and Georgia–Alabama ($n = 7$) 104.82. The ranges of these samples overlap considerably and the differences between the means of the samples also are statistically similar.

Anthus spinoletta ludovicianus (Gmelin, 1789), p. 685 = *A. s. rubescens* (Turnstall, 1771)

Oberholser considered the race *rubescens* to be divisible into two distinct races and applied the name *ludovicianus* Gmelin to the birds from the Hudson Bay region and the name *rubescens* to birds from northern Ungava, Labrador, and Newfoundland. Oberholser characterized *ludovicianus* as grayer (less rufescent) on its upper parts and less deeply buff on its lower parts than *rubescens.*

As Oberholser (1919) pointed out, there is considerable variation in *A. s. rubescens.* Todd (1963) considered the amount of individual variation in *rubescens* to be "excessive" and did not divide the birds breeding from Hudson Bay east to Labrador. Parkes (*in litt.*, 1976) compared a series collected in May from Seven Islands, Quebec, the Belcher Islands, Hudson Bay, and Churchill, Manitoba, and found that individual variation in color exceeded any possible trends in geographic variation. Upon examining specimens of *A. spinoletta* for geographic variation in several museums, I agree with Todd and Parkes that individual variation in the race *rubescens* is considerable, and I conclude that there are no grounds for the recognition of additional races from eastern Canada. The name *ludovicianus* was based on a migrant taken in Louisiana and its description most closely resembles the less rufescent individuals of *rubescens.*

Lanivireo flavifrons sylvicola (Wilson, 1808), p. 997 = *Vireo flavifrons* Vieillot, 1807

Oberholser applied the name *sylvicola* to the northern populations of *V. flavifrons,* and considered the birds breeding to the south, from central

Texas and northern South Carolina south to southeastern Texas and northeastern Florida to be referable to nominate *flavifrons.* According to Oberholser the northern race, *sylvicola,* is distinct from *flavifrons* by its larger size and less golden or orange-yellow anterior underparts.

Hamilton (1958) found no geographic variation in color in *V. flavifrons* and did not mention any differences in size between samples of the species. I too find no geographic variation in color in *V. flavifrons.* There is clinal variation in wing chord between northern and southern birds, but this variation is very slight. Measurements in wing chord of males is as follows: New York–New Jersey ($n = 10$) 77.71, Virginia–Maryland ($n = 11$) 75.74, Georgia–Florida ($n = 11$) 74.47. Measurements of females from these samples are, respectively, as follows: ($n = 6$) 77.28, ($n = 3$) 76.76, and ($n = 5$) 74.24. Thus geographic variation in the species is not sufficient to justify recognition of races in *Vireo flavifrons.*

Solivireo solitarius jacksoni, p. 709 = *Vireo s. plumbeus* Coues, 1866

The western populations of *V. solitarius* have traditionally been divided into two races, *plumbeus* Coues, 1866 (type-locality = Ft. Whipple, Arizona), a gray form breeding throughout most of the Great Basin in the Rocky Mountains from southeastern Montana to western Texas, and *cassinii* Xantus, 1858, a yellow and green form breeding in the remainder of western North America. Both races breed in Montana, with *cassinii* occurring in the northwestern part of the state, and *plumbeus* breeding in the southeastern part of the state.

Oberholser considered *plumbeus* to be a composite of two races. The form breeding in New Mexico and the Trans-Pecos of Texas (*plumbeus*) was characterized by its small bill and grayish coloration. Oberholser named a race *jacksoni,* said to have a larger bill and to be more olivaceous than *plumbeus,* and alleged to breed from northeastern Sonora and Arizona north to Montana. The holotype of *plumbeus* was collected within the range of so-called *jacksoni,* but Oberholser regarded it as a migrant from the east. Whether or not the holotype of *plumbeus* is a migrant is of little importance, because the race *jacksoni* is not recognizable. The length of bill of adult male specimens from Texas ($\bar{x}$ 7.55 mm, $n = 8$) is practically identical to that of males from central Arizona ($\bar{x}$ 7.94 mm, $n = 7$). In addition, Hamilton (1958:318) showed that there is very little difference in length of culmen between samples of specimens from southeastern Arizona and from Colorado. Furthermore, I cannot separate specimens of *jacksoni* from those of *plumbeus* (*sensu* Oberholser, 1974) on the basis of the alleged differences in color of the two forms. The holotype of *jacksoni* is well within the range of individual variation of *plumbeus.*

Melodivireo gilvus petrorus, p. 715 = *Vireo gilvus leucopolius* (Oberholser, 1932)

Oberholser named a race *petrorus*, said to breed from southern British Columbia and southern Alberta southward to northern Sonora and the Trans-Pecos of Texas. He described *petrorus* as darker and more olivaceous above than eastern *gilvus*, and larger and more grayish above than a northwestern race, *swainsonii*. Oberholser did not mention *leucopolius*, a large gray race that he described in 1932 from the Warner Valley in Oregon. According to the A.O.U. Check-list, *leucopolius* has a range that would include most of that of *petrorus*. Although not so stated, Oberholser (1974) limited the range of *leucopolius* to the Warner Valley. Specimens of *leucopolius* (*sensu* Oberholser, 1932) and *petrorus* are similar both in coloration and in size (Browning, 1974).

Dendroica petechia hypochlora, p. 737 = *D. p. sonorana* Brewster, 1888

The western populations of *D. petechia* are divided into a dark northern race *morcomi* Coale, 1887, breeding from western Washington and western Montana south to northern Arizona and central New Mexico, and a pale southwestern race, *sonorana* Brewster, 1883, breeding from central Arizona and southwestern New Mexico to Zacatecas in Mexico. According to Phillips (*in* Phillips et al., 1964) intergradation between *morcomi* and *sonorana* occurs in northern and northeastern Arizona. Intergradation between these two races was also reported to occur in New Mexico (Hubbard, 1971) and in Colorado (Brewster, 1888). Oberholser named a new race *hypochlora*, the range of which includes most of this area of intergradation. *Dendroica p. hypochlora* was said to be similar to *morcomi*, but with the males more yellowish, darker above, and with finer streaks of chestnut below than in *sonorana*. Females were described as paler than *morcomi* and both sexes were said to be smaller than either *sonorana* or *morcomi*.

I find that the differences in size between the three forms are too small to distinguish any of the populations. Most of the specimens in the type-series of *hypochlora* are pale and therefore closer to *sonorana* than to *morcomi*. The holotype of *hypochlora* is definitely referable to *sonorana*.

Dendroica dominica axantha, p. 758 = *D. d. albilora* Ridgway, 1873

Ridgway (1873) divided *D. dominica* into two races, the nominate race with yellow lores, and *albilora*, a shorter-billed race having a white superciliary line. The race *albilora* was said to breed in the Mississippi Valley south to the Gulf states and *dominica* was said to breed in the remaining eastern part of the species' range. Nominate *dominica* was later subdivided by Sutton (1951), who named *stoddardi*, a long-billed race with yellow lores, breeding in the coastal regions of northwestern Florida.

Oberholser (1974) described *axantha* as a new race breeding in the upper Mississippi Valley, limiting *albilora* to central Texas east to Mississippi. He described *axantha* as similar to *albilora*, but with a shorter bill and wing chord, and a less deeply orange throat, and to have reduced white on the outer rectrices. This new race is described as having less white in the rectrices than either *albilora* or nominate *dominica*, and to differ from the nominate race in its shorter bill, more yellow-orange throat and white lores.

I find that the coloration of the throat is subject to considerable individual variation and cannot be used to separate *axantha* from other races of *D. dominica*. The amount of white in the outer rectrices appears to be similar in all populations of *D. dominica* breeding in North America. Although Ridgway (1902) considered *albilora* to have larger white areas on the rectrices than nominate *dominica*, specimens at hand do not show this character to be particularly useful. Oberholser considered *albilora* to have a longer wing chord than nominate *dominica* or *axantha*. The latter race was said to have the shortest wing. Measurements of the type-series of *axantha*, and samples of the other North American races of *D. dominica* (*sensu* Oberholser), including *stoddardi*, are all very similar ($\bar{x}$ 65.37 for *axantha*, $n = 11$ to 65.99 for *albilora*, $n = 12$).

Length of bill in males of *axantha* is slightly less (8.8–9.9, $\bar{x}$ 9.17 ± 0.313, $n = 11$) than both *albilora* (8.5–10.1, $\bar{x}$ 9.62 ± 0.501, $n = 12$) or nominate *dominica* (8.7–11.5 $\bar{x}$ 9.82 ± 0.739, $n = 26$). Surprisingly, the length of bill of *axantha* is significantly smaller than that of *albilora* ($t = 2.920$, $P < 0.001$) or of nominate *dominica* ($t = 3.003$, $P < 0.001$). Although these differences are statistically significant, I do not believe that recognition of *axantha* is warranted. Most of the specimens of "*axantha*" used in calculating length of bill were from Illinois and Indiana, which may have shorter bills than birds taken elsewhere in the range of the supposed race. Even within the range of nominate *dominica* geographic variation in bill length is readily apparent. For example, six males from Virginia and Maryland (10.5–11.5 $\bar{x}$ 10.9) are similar to *stoddardi* (10.3–11.8 $\bar{x}$ 11.1, $n = 8$). Sutton (1951) found that three males from St. George's Island, Maryland, are long billed; although I agree with Sutton that similar northern specimens are not slender-billed enough to be identified as *stoddardi*. The long-billed specimens from the northern range of nominate *dominica* are otherwise similar to examples of *dominica* taken to the south.

Specimens referred to *axantha* are separable from *albilora* (*sensu* Oberholser, 1974) only on the basis of their slightly shorter bill. I do not consider this difference sufficient to justify a new subspecies from the upper Mississippi Valley.

Oporornis formosus umbraticus, p. 1001 = *O. formosus* (Wilson, 1811)

Oporornis formosus was regarded as monotypic until Oberholser (1974) divided it into a northern and a southern race. He considered *umbraticus*, the northern race, to be larger and less yellowish olive-green above, and paler yellow below than the southern race, *formosus*. The breeding range of *umbraticus* was said to be from northeastern Iowa, southern Michigan, and Connecticut south to northern Missouri, southern Ohio, and Virginia. Nominate *formosus* was said to occupy the remaining part of the species' breeding range.

The differences in color between the alleged races are apparent only in the series compared by Oberholser. Specimens from the type-series of *umbraticus* were collected mostly in the 1880's, while the series of nominate *formosus* was collected mostly in the 1930's or later. Specimens of similar museum age collected in the northeastern United States are not paler than birds collected elsewhere. I attribute these color differences described by Oberholser to fading of the older skins. The greatest difference in size between *umbraticus* and nominate *formosus* was said to be in wing chord (Oberholser, 1974). I find that the differences in wing chord are not sufficient to warrant recognition of subspecies in *O. formosus* (see Table 6).

Icteria virens danotia, p. 789 = *I. v. virens* (Linnaeus, 1758)

Two races of *I. virens* are currently recognized (Lowery and Monroe, 1968): a greenish-backed eastern race, *virens* Linnaeus, 1758 (type-locality = South Carolina), and a longer tailed, grayish-backed western race, *auricollis* Deppe, 1830 (type-locality = City of Mexico, Mexico).

Oberholser named a race *danotia* (type-locality = 20 mi W Mountain Home, Kerr Co., Texas), stating that it breeds from central and southern Texas south to northeastern Coahuila, an area that is geographically between the ranges of *auricollis* and *virens*. According to Oberholser, *danotia* is intermediate in size between *virens* and *auricollis* and grayer than either race. I find that in coloration and in size specimens from the type-series of *danotia* collected from the western part of its supposed range are similar to *auricollis*, and that specimens from the eastern part of its range are similar to *virens*. Most specimens in the type-series of *danotia* are morphologically intermediate between *auricollis* and *virens*. The holotype of *danotia* and specimens collected nearby are most similar to the nominate race in dorsal coloration, wing chord, and length of tail. On the basis of the

Table 6. Variation (mm) in wing chord of specimens of *Oporornis formosus.*

	Males			Females		
Sample	*n*	range	mean	*n*	range	mean
Pennsylvania	12	66.3–75.7	70.11	5	65.0–71.4	67.78
Virginia	12	67.8–72.3	70.41	2	66.9–69.1	68.00
North Carol.	3	67.4–69.6	68.50	3	65.5–67.1	66.36
S.C.–Ga.	8	66.0–69.5	68.30	8	62.4–69.2	66.42
Illinois	6	67.8–70.7	69.33	5	64.4–66.4	65.34
Kentucky	4	67.2–70.9	69.35	5	62.0–65.8	64.54
Tennessee	5	68.8–71.7	70.14	2	64.4–65.9	65.15
Mississippi	6	65.6–69.4	67.73	2	60.8–62.7	61.75
Kansas	3	67.5–71.7	69.43	4	62.2–63.3	62.6

characters of the holotype the name *danotia* is here considered a synonym of *virens.*

Passer domesticus plecticus, p. 801 = *P. d. domesticus* (Linnaeus, 1758)

Oberholser proposed the name *plecticus* for House Sparrows breeding in western North America. This race was said to be grayer and paler than nominate *domesticus.* Upon examination of the type-series of *plecticus,* I agreed (Browning, 1974) with Johnston and Selander (1964) that recognition of races of *P. domesticus* in North America is premature. Furthermore, recent work by Johnston and Selander (1973) demonstrate that *P. domesticus* in the New World has not diverged sufficiently from the Old World populations of nominate *domesticus* to warrant recognition of American races.

Agelaius phoeniceus stereus, p. 812 = *A. p. stereus* Oberholser, 1974

The birds breeding in North Dakota west to the east slope of the Rocky Mountains in Montana south to Colorado have been included by most authorities in the range of *A. p. arctolegus* Oberholser, 1907. Oberholser considered the birds from the above portion of the range of *arctolegus* to represent a recognizable race which he named *stereus.* This race was described as intermediate between *arctolegus,* the race breeding to the northeast, and *fortis* Ridgway 1901, the breeding bird of the central Great Plains. Oberholser considered *stereus* to be similar to *arctolegus,* but browner in female plumage and with a longer tail and wing chord. The new race was also said to have a shorter culmen than either *arctolegus* or *fortis*, and to be further separable from the latter race by its darker color in female plumage. Oberholser also named the breeding birds of Idaho and western Montana and Wyoming as a new subspecies. That new race, named *zastereus* is a recognizable race (Browning, 1974), and has a shorter tail and more slender bill than *stereus*; *zastereus* is treated separately (see below).

I find that the characters ascribed by Oberholser to *stereus* are sufficient to justify recognition of the race. Females are noticeably browner and have longer wings and tails (cf. Oberholser, 1974) than females of *arctolegus*. A series from eastern Montana and North Dakota are much browner than specimens collected in south central Canada and Minnesota. Specimens from the range of *zastereus* have noticeably more slender bills than *stereus*.

The differences between *stereus* and *fortis*, however, are slight. Oberholser has defined the range of *fortis* as southwestern South Dakota south to central Oklahoma and northwestern Texas. I find that the specimens from the range of *fortis*, as defined by Oberholser, are separable from *stereus* collected north of Colorado, but that intergradation between *stereus* and *fortis* makes subspecific identification of Colorado birds difficult, particularly in males. This is unfortunate since the type-locality of *stereus*, Barr, Adams Co., Colorado, is near this zone of intergradation. The holotype of *stereus* has a noticeably more slender bill than does the holotype of *fortis* and is more similar in bill dimension to specimens from eastern Woyming and Montana than to birds from Colorado. The bill measurements given by Power (1970) reveal that the culmens of birds from Colorado are shorter than that of *fortis* (*sensu* Oberholser, 1974), which supports Oberholser's description of the new form. Also, the length of culmen in birds from eastern Colorado approaches that of birds from central Colorado and the type-locality of *stereus* (Power, 1970). The width of the upper mandible, length of the tail and wing chord are greatest among specimens from Colorado and eastern Wyoming and Montana, especially in females (cf. Power, 1970).

Identification of specimens from Colorado is further complicated by the present concept of the breeding range of *fortis*. According to the A.O.U. Check-list (1957), *fortis* ranges from western Montana, eastern Idaho and eastern Utah, southward to northern Arizona and east to northwestern Texas, western Kansas and Nebraska. I find this range to include four recognizable races: *utahensis* Bishop, 1938 (type-locality = near Saltair, 4,200 ft, Salt Lake County, Utah; not recognized by the A.O.U. Check-list (1957), but see Behle, 1940), a brownish (in females), slender billed race of Utah and parts of adjoining states; *zastereus*, a darker, longer tailed and more slender billed race found breeding in Idaho, and western Montana and Wyoming; *stereus*, a shorter tailed race of eastern Montana and Wyoming, and North Dakota south to central Colorado; and *fortis*, a heavier and longer billed race of western Nebraska and Kansas, eastern Colorado south to northwestern Texas, New Mexico, and probably northeastern Arizona.

A comprehensive review of the species is needed. However, in the absence of such a review, the taxonomic treatment of the races discussed herein best reflects the morphological variation of the subspecies.

Agelaius phoeniceus zastereus, p. 812 = *A. p. zastereus* Oberholser, 1974

The populations of *A. phoeniceus* breeding in Idaho and western Montana were named *zastereus* by Oberholser and are sufficiently distinct to merit subspecific status (Browning, 1974). Compared to the races contiguous with its breeding range, *A. p. zastereus* has a more slender bill than *stereus* or *fortis*, but larger billed than *nevadensis* or *utahensis*. In females, the coloration of *zastereus* is blacker than in *fortis* and browner than in *utahensis*. The mean of wing chord for *zastereus* is greater than in *nevadensis* and the length of tail is greater than in *stereus*.

Agelaius phoeniceus heterus, p. 812 = *A. p. fortis* Ridgway, 1901

The birds breeding in northern Arizona and New Mexico have traditionally been known by the name *fortis* Ridgway, 1901. Behle (1940) demonstrated that *utahensis* Bishop, 1938 (type-locality = near Saltair, 4,200 feet, Salt Lake County, Utah), is a recognizable race and that it intergrades with *sonoriensis* Ridgway, 1887, in northern Arizona. *Agelaius p. sonoriensis* (type-locality = Mazatlan, Sinaloa, Mexico; see Deignan, 1961:572) is a pale reddish-brown (in females) and thin-billed race found breeding from southeastern California, southern Nevada, most of Arizona, and south to Baja California, and Sonora.

Oberholser applied the name *heterus* to populations from northern Arizona and New Mexico. He described the new race as having a shorter wing chord and a slightly thicker bill than *fortis*. The females of *heterus* were described as paler and more brown (less black) than *fortis*, and males were said to have more deeply colored wing coverts than in *fortis*.

I cannot separate specimens of *heterus* collected in New Mexico from specimens of *fortis* taken in eastern Colorado and northern and western Texas. The bill of the holotype of *heterus* is smaller and more slender than that of most of the type series of *heterus* and the holotype of *fortis*, but otherwise these specimens are very similar. The smaller size of the bill of specimens from New Mexico may be due to gene flow from the smaller-billed races *sonoriensis* and *utahensis*. Specimens from northern Arizona assigned to *heterus* by Oberholser are intermediate between *sonoriensis* and *utahensis* in bell size and coloration. Although the putative range of *heterus* includes several intermediate populations, the holotype of *heterus* is closest to *fortis*.

Icterus bullockii eleutherus, p. 827 = *I. galbula bullockii* (Swainson, 1827)

Icterus galbula (Linnaeus), 1758, of eastern North America and *I. bullockii* (Swainson), 1827, of western North America and Mexico were traditionally regarded as distinct species, but are now known to interbreed freely in the Great Plains and are considered conspecific (Sibley and Short, 1964). The form *bullockii* was subdivided by van Rossem (1945) who, on the basis of wing length, named the populations from California *parvus* (type-locality = Jacumba, San Diego Co., California). Rising (1970) studied geographic variation in *bullockii* and concluded that *parvus* did not warrant recognition.

The Northern Orioles of western Oklahoma and northern Texas, south to northern Tamaulipas, were described by Oberholser as a new race, *eleutherus*. This race was said to be identical to *bullockii* (*sensu* Rising, 1970) in size and pattern, but much deeper orange on the underparts and rump in males and darker above in females. I find that dorsal coloration in females of both populations is identical. The holotype and certain other male specimens from the type-series of *eleutherus* average slightly more orange (less yellow) than most western birds, but there are individuals in the western series that are more orange than any of the specimens of *eleutherus*. Males of *bullockii* are, on the average, more yellow than the eastern form *galbula*, which is more orange. That males from the range ascribed to *eleutherus* are fairly consistently orange yet are otherwise identical to typical *bullockii*, suggests the likelihood of gene flow from nominate *galbula* (L. L. Short, *in litt.*). The holotype of *eleutherus* has black edges on the outer webs of the three lateral rectrices, but is otherwise phenotypically "pure" *bullockii* according to the hybrid index of Sibley and Short (1964). The characters of the race *eleutherus* can be explained by the effects of individual variation and minor introgression of the *galbula* phenotype. Therefore, I consider the name *eleutherus* to be a synonym of *bullockii*.

Euphagus cyanocephalus brewerii (Audubon, 1844), p. 832 = *E. cyanocephalus* (Wagler, 1829)

Oberholser recognized four races of *E. cyanocephalus*. Two of these, *aliastus* and *minusculatus*, both based on western populations, have previously been evaluated in the literature and are not recognized as valid races (A.O.U., 1957). The birds found to the east in the Rocky Mountains and in the Great Plains, assigned to nominate *cyanocephalus* by authors such as Oberholser (1932), were further divided by Oberholser (1974). He revived the name *brewerii* and applied it to the populations of the Great Plains, considering *brewerii* to differ from *cyanocephalus* by being much darker grayish-brown (less rufescent) above and below in females and slightly more bluish-green in males.

I cannot discern the alleged differences in coloration between samples of both old and more recently collected specimens representing *brewerii* and *cyanocephalus*. Individual variation, particularly in females, is apparent throughout the range of the species, including the Rocky Mountains and the Great Plains. Geographic variation throughout the range of the species is too slight to justify the recognition of races.

Piranga ludoviciana zephyrica, p. 847 = *P. ludoviciana* (Wilson, 1811)

Piranga ludoviciana was considered monotypic until Oberholser (1974) proposed the name *zephyrica* for birds breeding from northwestern British Columbia, southern MacKenzie, and central Saskatchewan south through the Rocky Mountains to southeastern Arizona and the Trans-Pecos of Texas. The nominate form was said to breed from southwestern British Columbia and southeastern Idaho south to Baja California and central Utah. *Piranga l. zephyrica* was described as larger, with the ventral coloration of males brighter while adult females were said to be paler both above and below. The greatest mensural differences between the two races were said to be the length of wing, tail, and exposed culmen of males, the same measurements being less variable in females (cf. Oberholser, 1974).

In my opinion, the variation observed in *P. ludoviciana* does not justify the recognition of races. Males from eastern Arizona and New Mexico average larger than birds collected elsewhere, but a series from the southwest is well within the range of individual variation of a series from western Oregon and Vancouver Island (Table 7). There is no consistent geographic variation in size in the breeding range of males, nor are there even any trends. Measurements of females indicate even less variability.

I examined 175 adult males for variation in color. Despite considerable individual variation in this series, there was no evident geographic pattern. The same was true of a series of 92 adult females, although dorsal coloration tends to be darker in birds from the Pacific states, the Southwest and Alberta, and paler in the remainder of the range of the species. Ventral coloration in females is subject to more individual variation than in males. A series from Alberta averages paler below, less yellow and more gray, than most other specimens. The variation in females is not consistent with that described by Oberholser, nor does the variation justify naming any population of *P. ludoviciana*.

Table 7. Measurements (mm) of male specimens of *Piranga ludoviciana* with comparison of largest and smallest of the populations sampled and comparison of measurements of samples from Oregon.

		Wing chord		Tail		Bill length		Bill width	
	n	$\bar{x}$	range	$\bar{x}$	range	$\bar{x}$	range	$\bar{x}$	range
Arizona–New Mexico	17	96.47	90.4–100.6	71.85	66.6–75.2	11.65	10.1–12.0	6.43	6.2–7.0
Vancouver, B.C.	15	93.30	89.7–97.2	69.14	65.9–73.2	11.38	10.5–12.6	6.56	5.9–7.1
Montana	9	94.37	91.5–97.6	69.63	67.2–72.2	10.86	10.3–11.5	6.54	6.0–7.1
Utah	8	94.93	93.5–96.8	70.76	69.1–73.9	11.41	10.9–11.7	6.32	6.1–6.6
Western Oregon	17	94.96	91.2–97.6	70.28	65.4–73.9	11.45	10.6–12.0	6.55	6.0–7.0
Eastern Oregon	18	95.74	91.2–102.6	70.27	66.7–75.1	11.34	10.3–12.7	6.44	6.2–6.8

Guiraca caerulea mesophila, p. 862 = *G. c. caerulea* (Linnaeus, 1758)

In their revision of *G. caerulea*, Storer and Zimmerman (1959) recognized six races, three of which occur in the northeastern part of the range of the species to be considered here. These are: *G. c. caerulea* (Linnaeus), 1758, in the eastern United States, *eurhyncha* Coues, 1874, in northern Mexico, and *interfusa* Dwight and Griscom, 1927, in the southwestern United States. These forms differ in both size and coloration (Storer and Zimmerman, 1959), *eurhyncha* being similar to nominate *caerula* in color but with a larger bill and *interfusa* being the palest of the three races and intermediate in size.

Dwight and Griscom (1927:3) remarked that specimens from the Rio Grande Valley are intermediate between *interfusa*, *eurhyncha*, and *caerulea.* Storer and Zimmerman (1959) considered the birds from Cameron County, Texas, to be near the size of *interfusa* and near the color of *caerulea.* All of these authors assigned the birds of the lower Rio Grande Valley (including Cameron County) to *caerulea.*

The breeding birds of central South Dakota south through the central United States to northeastern Mexico, the general area of contact between *interfusa* and *caerulea*, were considered by Oberholser to form a new race, *mesophila* (type-locality = Lipscomb, Lipscomb Co., Texas) described as larger and paler than nominate *caerulea*, and smaller than either *interfusa* or *eurhyncha.* In color *mesophila* was said to be somewhat darker than *interfusa.*

As noted by Oberholser, specimens from the type-locality in southeastern Texas are more similar to *interfusa* in color (*contra* Storer and Zimmerman, 1959). The holotype of *mesophila*, however, is dark ventrally and thus more closely resembles *caerulea* from the Atlantic seaboard states, with which it also resembles in size (wing chord 86.3, length of tail 66.9, and length and width of bill, 12.6 and 6.5, respectively). Dorsally, the type is pale, resembling specimens of *interfusa* from New Mexico and Arizona.

Thus the holotype appears to be an intermediate between *interfusa* and *caerulea.* Because it shares more characters with the latter the name *mesophila* is here considered a synonym of *caerulea.*

Erythrina mexicana anconophila, p. 879 = *Carpodacus mexicanus frontalis* (Say, 1823)

Carpodacus mexicanus, in the modern sense, was first divided in 1823 when Say proposed the name *frontalis*, for a pale northern form with a grayish-brown back that breeds throughout most of North America north of Mexico. Griscom (1928) named an additional northern race, *potosinus*, described as darker and brownish-backed and as breeding from the middle of the Rio Grande Valley of Texas, west to Chihuahua and south to southwestern Tamaulipas.

Moore (1939) suggested that the birds breeding in the Trans-Pecos of Texas were intermediate in color and size between *frontalis* and *potosinus*. Oberholser considered birds from the southwestern part of the Trans-Pecos to be distinct from both *frontalis* and *potosinus*, and named a new race, *anconophilus*, described as paler above and more suffused with red than *frontalis*.

The holotype of *anconophilus* differs somewhat from the rest of the type-series and is not strictly comparable, since it was collected earlier in the year (1 April) and may represent a migrant from a more northern population. The red areas of the rump, crown, and throat of most of the males in the type-series of *anconophilus* are similar to those of *potosinus* in being less purple (more red) than in *frontalis*, whereas the holotype is similar to *frontalis* in this respect. In dorsal coloration, I find the holotype of *anconophilus* to be more similar to *frontalis* than to *potosinus*. Dorsal coloration in the rest of the type-series ranges from grayish-brown (*frontalis*) to brownish (*potosinus*) with northern examples being less brown than examples from the southern part of the alleged range of *anconophilus*.

The mensural differences between *frontalis*, *potosinus*, and *anconophilus* are small and are of no taxonomic significance. Most birds assigned to *anconophilus* by Oberholser are well within the range of variation of *frontalis*. I have not examined breeding birds from Chihuahua, but three males collected in October are referable to *potosinus*.

The type-series of *anconophilus*, excluding the holotype, is composed of intergrades between *frontalis* and *potosinus*. The holotype, however, is similar to examples of the more northern populations of *frontalis*.

Hortulanus fuscus aimophilus, p. 899 = *Pipilo fuscus texanus* van Rossem, 1934

Pipilo fuscus, in the modern sense, was first divided by Baird, 1854, who proposed the name *mesoleucus* for the birds breeding from central Arizona and northern New Mexico south to northern Sonora and western Texas. *Pipilo f. mesoleucus* was divided by van Rossem (1934b) who described a new race, *texanus* (type-locality = Kerrville, Kerr Co., Texas), characterized as paler and less brown with a shorter tail than *mesoleucus*. In naming *texanus*, van Rossem (1934b) restricted *mesoleucus* to extreme western Texas and Arizona, and considered the birds from the central Trans-Pecos of Texas to be intermediate between *texanus* and *mesoleucus*. Davis (1951) concurred that the central Trans-Pecos is a region of intergradation between *texanus* and *mesoleucus*. Oberholser considered the birds of that region and adjacent Mexico to merit subspecific recognition and named a new race, *aimophilus*, described as slightly darker and with a shorter tail than *mesoleucus*, and to be paler with a longer tail than *texanus*.

In comparing the type-series of *aimophilus* with specimens of *texanus* and *mesoleucus*, I took particular care to use skins of similar museum age, since *P. fuscus* is subject to extreme post-mortem color changes (Davis, 1951). Davis did not consider color as a reliable character in separating *texanus* and *mesoleucus* and relied on the size differences between these races. I too find the differences in coloration between the two races to be very slight and discernible only in large series. In ventral color the type of *aimophilus* is most similar to *texanus*. Individual variation in the type-series of *aimophilus* is greater than that in the comparative series of *texanus* or *mesoleucus*.

The best mensural character separating *texanus* and *mesoleucus* is length of tail (Davis, 1951). The type-series of *aimophilus* has a length of tail intermediate between the two races.

The type-locality of *aimophilus* (Ft. Davis, Jeff Davis Co., Texas) is included in what Davis (1951) considered to be the breeding range of *texanus*. I concur that the birds breeding in the Fort Davis region are referable to *texanus*.

Chondestes grammacus quillini, p. 915 = *C. g. strigatus* Swainson, 1827

Two races of *C. grammacus* are currently recognized by most authorities. *Chondestes g. grammacus* (Say), 1823, a dark race, breeds in the eastern part of North America. A pale, western race, *strigatus* Swainson, 1827, breeds as far east as Oklahoma (Sutton, 1967).

Oberholser named a new race, *quillini*, said to breed from western Nebraska and central Arkansas south to southern Coahuila and central Tamaulipas. This race was characterized as having a shorter wing and tail than in either *grammacus* or *strigatus*, and as being intermediate in color between those two races. The mean of measurements of wing chord for males of *grammacus* (86.35, $n = 17$), *strigatus* (86.07, $n = 9$), and *quillini* (86.05, $n = 10$) are similar. The means of the length of tail of six males of *strigatus* (69.7) and six of *quillini* (68.7) are similar. Most of the specimens in the type-series of *quillini* are quite worn, perhaps accounting for the slightly smaller measurements reported by Oberholser. Coloration of the type-series of *quillini*, and that of fresher material from the stated range of *quillini*, are well within the range of variation of *strigatus*.

Amphispiza bilineata dapolia, p. 923 = *A. b. opuntia* Burleigh and Lowery, 1939

The populations of *A. bilineata* north of Mexico were first subdivided into a western, reddish-brown race, *deserticola* Ridgway, 1898, and a small, brown, eastern race, nominate *bilineata* Cassin, 1850. Burleigh and Lowery

(1939) subsequently divided *deserticola* and named a race *opuntia* (type-locality = Guadalupe Mountains, Culberson County, Texas) that included populations from southeastern Colorado and northwestern Oklahoma south through New Mexico and western Texas to northwestern Coahuila. *Amphispiza b. opuntia* is a pale gray race and is slightly larger than *deserticola* or *bilineata.* A fourth race, *grisea* Nelson, 1898 (type-locality = Tula, Hidalgo), a small gray race breeds to the south in ranging from southern Coahuila, central Chihuahua, and south to Hidalgo (Miller, 1954).

Oberholser divided *opuntia* and named a race *dapolia*, for the populations from southern Trans-Pecos south to northwestern Coahuila, the breeding range of *opuntia* being defined as the Guadalupe Mountains of southeastern New Mexico to northern Trans-Pecos in Texas. Oberholser described *dapolia* as larger and paler (more gray) above than nominate *bilineata*, smaller and darker (more gray) than *opuntia*, and smaller, paler and "still more grayish" than *grisea.* On the basis of average dorsal coloration and wing chord, I consider that the populations named *deserticola*, *opuntia*, *bilineata*, and *grisea* are indeed valid races.

Reconstruction of the type-series of *dapolia* reveals that this race is a composite of the above four races. Most specimens in this series are similar to *opuntia*, and the holotype of *dapolia* is nearly identical to the type of *opuntia.* Therefore, the name *dapolia* should be considered a synonym of *opuntia.*

Junco oreganus eumesus, p. 929 = *J. hyemalis shufeldti* Coale, 1887
(*sensu* Phillips, 1962)

Miller (1941b) reviewed the geographic variation of *J. hyemalis.* Phillips (1962) using specimens in comparable plumages, found that the holotype of *shufeldti* Coale, 1887, a migrant taken in New Mexico, is referable to the populations from southeastern British Columbia and southeastern Alberta southward to northeastern Oregon. Thus, the name *montanus* Ridgway, 1898, becomes a synonym of *shufeldti* (*contra* Miller, 1941b). The race having a range from southeastern British Columbia south to western Washington and west-central Oregon, incorrectly called *shufeldti* by Miller, was renamed *simillimus* by Phillips (1962). Therefore, by Phillips' nomenclature, Oberholser has described a race that in coloration is intermediate between *shufeldti* and *simillimus.* The geographic range of *eumesus* is similar to that occupied by *shufeldti.* As might be expected, there is no variation that would suggest the recognition of a new race (Browning, 1974), and the name of *eumesus* is a synonym of *shufeldti.*

Spizella pusilla perissura, p. 941 = *S. p. arenacea* Chadbourne, 1866

Spizella pusilla vernonia, p. 941 = *S. p. arenacea* Chadbourne, 1886

The nominate eastern race of *Spizella pusilla* breeds in eastern North

America to central Minnesota, and to eastern Texas. A western race, *arenacea* Chadbourne, 1886, breeds from northern North Dakota to Texas and west to the Rocky Mountains. *Spizella p. arenacea* has a longer tail and wing chord and is paler brown and grayer above than *pusilla* (Wetmore, 1939).

The two races interbreed at several localities. Minor geographic variation within the two races and variability within the intergrading populations led Wetmore (1939:241) to conclude that, "To give the series of intermediates a separate name would serve in my opinion only to complicate the picture, with no useful result because of the definitely mixed character of the populations concerned." Nevertheless, Oberholser conferred new names on two geographically intermediate populations. He defined the range *arenacea* as the region from eastern Montana south to South Dakota, and named a new race *perissura* (type-locality = Valentine, Cherry Co., Nebraska) said to breed from southeastern South Dakota to Nebraska, and *vernonia* (type-locality = Japonica, Kerr Co., Texas) said to breed in the southern Plains. Although Oberholser did not so state, his restriction of *arenacea* indicates his belief that the holotype, collected in November in southern Texas, was a migrant. The type-series of *perissura* includes specimens referable to *arenacea* and *pusilla* as well as intergrades between those two races. In size and color, however, the holotype and most of the type-series of *perissura* are best considered to be referable to *arenacea*.

Spizella p. vernonia was said by Oberholser to be distinct from *pusilla* by its grayer (less rufescent) underparts, and from *arenacea* by its more rufescent (less grayish) upperparts and shorter wing and tail.

I agree with Wetmore (1939) that the color differences separating *arenacea* and nominate *pusilla* (*sensu* A.O.U., 1957) are considerable. Most birds in the type-series of *vernonia* are similar in color to *arenacea*, but in wing chord they are more similar to *pusilla*. This series also includes some specimens that are more similar in color to *pusilla*. The fate of the name *vernonia*, therefore depends upon the identification of the holotype. The holotype is similar to bird specimens identified as *arenacea* by Wetmore (1939) from San Angelo, Texas, 120 miles northwest of the type-locality of *vernonia*. *Spizella p. veronia* is here considered a synonym of *S. p. arenacea*.

Zonotricha leucophrys aphaea, p. 947 = *Z. l. leucophrys* (Forster, 1772)

Oberholser subdivided *Z. l. oriantha* Oberholser, 1932, into two races: *oriantha*, ranging from southeastern Oregon south to central California and northern and southwestern Nevada and Utah; and a new race, *aphaea*, said to breed in Idaho and northwestern Wyoming. *Zonotrichia l. aphaea* was characterized as being darker and more gray than *oriantha* and browner above and more buffy below than nominate *leucophrys*. Comparison of the type-series of both *aphaea* and *oriantha* with other specimens of *Z. leucophrys* reveals that *aphaea* is indistinguishable from nominate race (Browning, 1974). *Zonotrichia l. oriantha* is a recognizable race (Miller, 1941a; Godfrey, 1965; *contra* Banks, 1964) and has a range as restricted by Oberholser (1974).

Melospiza melodia callima, p. 957 = *M. m. melodia* (Wilson, 1810)

Populations of the Song Sparrow breeding from the Atlantic coast east of the Appalachian Mountains were referred to nominate *melodia*, until Thayer and Bangs (1914) described *acadica*. The authors gave Nova Scotia as the breeding range of *acadica*, which was said to differ from nominate *melodia* by being paler. Todd (1930) considered *acadica* a synonym of nominate *melodia*. A third race, *atlantica*, was described by Todd (1924) as duller (more grayish-brown) and larger billed than nominate *melodia*. The breeding range of *atlantica* is the salt marshes from Long Island south to North Carolina. According to Hubbard and Banks (1970) the name *rossignolli* Bailey, 1936, is a synonym of *atlantica*.

Oberholser divided nominate *melodia* and named a new race *callima*, said to have a range from northern and eastern Massachusetts south to southeastern New York and New Jersey. The race *callima* was said to be similar to nominate *melodia*, but with a somewhat smaller bill and with the upper parts decidedly paler and less rufescent (more grayish).

I compared the type-series of *callima* with a series of specimens from Nova Scotia ("*acadica*") and with birds from Pennsylvania and Virginia. There is no appreciable difference in coloration between the three series. Thayer and Bangs (1914) compared their type-series of "*acadica*" with specimens from Massachusetts and, although they considered "*acadica*" darker than the Massachusetts series, they referred the sample from Massachusetts to nominate *melodia*. Todd (1963) also compared specimens of *M. melodia* from locations similar to those in this study and did not detect any differences between them.

The alleged small difference in the length of exposed culmen between *callima* and *melodia* (*sensu* Oberholser, 1974) does not justify recognizing another race of *M. melodia*. The races of *M. melodia* east of the Appalachian Mountains are nominate *melodia*, a dark rufescent race, and *atlantica*, a dull grayish-brown littoral race, as recognized by the A.O.U. (1957).

Melospiza melodia melanchra, p. 958 = *M. m. euphonia* Wetmore, 1936

The first described eastern race of *M. melodia* (other than the nominate race) is *juddi* Bishop, 1896 (type-locality = Rock Lake, Towner Co., North

Dakota), a pale grayish race breeding in the central prairie states west to the Rocky Mountains. A second race, *beata*, Bangs, 1912 (type-locality = Enterprise, Florida) was considered by Todd (1930) to breed in the northeastern part of the Mississippi Valley. Bangs (1912) described *beata* as darker and grayer than nominate *melodia*. He makes no mention of *juddi*, mistakenly believing his race to be a breeding form of Florida. Wetmore (1936) found that the holotype of *beata* is a winter specimen of *juddi* and not an example of the breeding birds of the upper Mississippi Valley. The birds breeding in the eastern part of the upper Mississippi Valley and of the Appalachian Mountains were named *euphonia* by Wetmore (1936). This race was said to be darker and grayer than nominate *melodia*. Wetmore implied that *euphonia* is darker and more rufescent than typical specimens of *juddi*.

Oberholser described *melanchra* as similar to *euphonia*, but decidedly darker above (more sooty; less rufescent). He recognized "*beata*" as a midwestern race ranging east of *juddi*. He described *melanchra* as much darker above and having a longer wing chord and tail than "*beata*." The breeding range of *melanchra* was said to be from southeastern Ontario and western New York south to southeastern Kentucky and western Pennsylvania.

The differences between *euphonia* and *juddi* are apparent in series taken at the extremes of their breeding ranges. The type-series of *melanchra* is not darker than typical *euphonia* and the series is more rufescent than *juddi*. The race *melanchra* is clearly referable to *euphonia*. Wetmore's initials appear on several specimens of the type-series, which he identified as *euphonia*. Specimens from Wisconsin (= *euphonia* in A.O.U. (1957)) Check-list appear to be intergrades between *juddi* and *euphonia*. I hesitate to assign such specimens to either race. Mengel (1965) met with difficulty in working out the races breeding in Kentucky and also remarked that a tendency toward localized homogeneity exists as discussed by Fleming and Snyder (1939:4) that may have produced geographic variation similar to that found around San Francisco Bay (e.g., see Marshall, 1948).

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